



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/577,637	05/24/2000	George A. Saliba	Q00-1106-US1	7626

26161 7590 02/10/2003

FISH & RICHARDSON PC
225 FRANKLIN ST
BOSTON, MA 02110

EXAMINER

ALI, MOHAMMAD

ART UNIT	PAPER NUMBER
----------	--------------

2177

DATE MAILED: 02/10/2003 //

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/577,637

Applicant(s)

SALIBA, GEORGE A.

Examiner

Mohammad Ali

Art Unit

2177

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 December 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Art Unit: 2177

DETAILED ACTION

1. This office action is in response to the Amendment filed on December 04, 2002, Paper No. 9.

Drawings

2. This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

The drawings are objected to because they fail to show necessary textual labels of features or symbols in Figs. 1-5 as described in the specification. For example, placing a label, "servo field, magnetic tape, ring, cylinder, etc.", with elements 31, 20, 35, 30, 40 etc. of Fig. 2 and subsequent figures and so on would give the viewer necessary detail to fully understand this element at a glance. A **descriptive** textual label for **each numbered element** in these figures would be needed to fully and better understand these figures without substantial analysis of the detailed specification. Any structural detail that is of sufficient importance to be described should be shown in the drawing. Optionally, applicant may wish to include a table next to the present figure to fulfill this requirement. See 37 CFR 1.83. 37 CFR 1.84(n)(o) is recited below:

"(n) Symbols. Graphical drawing symbols may be used for conventional elements when appropriate. The elements for which such symbols and labeled representations are used must be adequately identified in the specification. Known devices should be illustrated by symbols which have a universally recognized conventional meaning and are generally accepted in the art. Other symbols which are not universally recognized may be used, subject to approval by the Office, if they are not likely to be confused with existing conventional symbols, and if they are readily identifiable.

(o) Legends. Suitable descriptive legends may be used, or may be required by the Examiner, where necessary for understanding of the drawing, subject to approval by the Office. They should contain as few words as possible."

Response to Arguments

3. Claims 1-31 are pending in this Office Action and all the pending claims have been amended.

After a further search and a thorough examination of the present application, claims 1-31 remain rejected.

Applicant's arguments with respect to claims 1-31 have been considered, but they are not deemed to be persuasive.

First, Applicant argues that Belsan does not teach, "a logical cylinder is located on a portion of a single recording medium".

In response to Applicant's arguments, the Examiner respectfully submits that in particular, Belsan teaches this limitation as, the logical cylinder number identifies uniquely and the logical address is used as a confirmation for cylinders location for data integrity considerations (col. 18, lines 1-6 et seq, Fig. 12).

Second, Applicant argues that Belsan does not teach, " logical cylinder on a single magnetic tape as described in specification fig. 2".

In response to Applicant's arguments, the Examiner respectfully submits that in particular, Belsan teaches this limitation as, single volume of data stored in a media such as automated magnetic tape library system (col. 3, lines 16-34).

In light of the forgoing arguments, the 102, 103 rejections are hereby sustained.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

5. Claims 1, 4-7, 16-20, and 26-31 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 5,403,639 issued to Belsan et al. ("Belsan").

As to claim 1, Belsan discloses a method of configuring a tape storage medium for recording a data file having a finite size (col. 3, lines 30-36). The claimed step of 'defining a logical cylinder on said tape storage medium, the tape storage medium comprising a single magnetic tape' is disclosed in the Belsan patent as the logical cylinder number identifies uniquely (single) and the logical address is used as a confirmation for cylinders location for data integrity considerations (col. 18, lines 1-6 et seq, Fig. 12). Further the claimed step of 'logical cylinder comprising at least one storage ring and being located entirely on a portion of the magnetic tape' is disclosed in Belsan as the set of data set constitute a portion of a single volume and stored in a magnetic tape in a file server system (col. 3, lines 16-34 et seq, Fig. 2). The claimed step of 'recording on the at least one storage ring said data file' is disclosed in Belsan as any number of copies (recording) of a single track can be made this method since the virtual track directory

entries are simple linked together in ring form (col. 22, lines 67 to col. 23, lines 2). Finally, the claimed step of 'wherein a length of said logical cylinder is dynamically allocated based on a size of the data file' is disclosed Belsan as the length of each ring to be maintained at a reasonable manageable number (col. 23, lines 9-11 et seq).

As per claim 4 '...,logical cylinder comprises a plurality of storage rings,...' is disclosed Belsan at col. 16 lines 3-51.

As per claim 5, '...,storage medium and aligning a recording head with said storage ring based on said tracking' is disclosed Belsan at col. 22 lines 62 to col. 23 lines 21.

As per claim 6, 'wherein information about the cylinders and storage rings is recorded on the storage medium' is disclosed Belsan at col. 22 lines 62 to col. 23 lines 21.

As per claim 7, 'wherein each file is associated with single ring' is disclosed Belsan at col. 22 lines 62 to col. 23 lines 21.

As to claim 16, Belsan discloses a method of storing, on a single storage medium, a data file of finite size (col. 3, lines 30-36). The claimed step of, 'determining a size of the data' is disclosed in Belsan patent as data record from the backend data storage devices stores in the length of ring to maintained at a reasonable manageable number (col. 23, lines 6-11). Further the claimed step of, 'determining, from the size of the data file, a length of a storage ring on said single storage medium for recording said file on said storage ring' is disclosed in the Belsan patent as the logical cylinder number identifies uniquely (single) and the logical address is used as a confirmation for cylinders location for data integrity considerations (col. 18, lines 1-6 et seq, Fig. 12). The claimed step of 'defining, on said storage medium, a logical cylinder to accommodate said storage ring on said logical cylinder' is disclosed Belsan as the length of each ring to be maintained at a reasonable manageable number (col. 23, lines 9-11 et seq). Finally 'logical cylinder being located entirely on a portion o the single storage meduim' is disclosed in Belsan as the set of data set constitute a portion of a single volume and stored in a magnetic tape in a file server system (col. 3, lines 16-34 et seq, Fig. 2).

As per claim 17, 'wherein said storage rings comprises tow substantially parallel logical tracks,...' at col. 16 lines 3-31.

As per claim 18, '...,storage medium comprises logical tracks,...' at col. 22 lines 62 to col. 23 lines 21.

As per claims 19, 'wherein said storage medium,...' is disclosed Belsan at Fig. 2.

As per claim 20, 'wherein said storage medium,...' is disclosed Belsan at Fig. 2.

As to claim 26, Belsan discloses a method of recording a data file as a logical ring on single recording medium (col. 3, lines 30-36). The claimed step of, 'determining a size of the data' is disclosed in Belsan patent as data record from the backend data storage devices stores in the length of ring to maintained at a reasonable manageable number (col. 23, lines 6-11). Further the claimed step of, 'determining a ring size of the logical ring based on said file size' is disclosed Belsan as the length of each ring to be maintained at a reasonable manageable number (col. 23, lines 9-11 et seq). The claimed step of '...,logical cylinder being located entirely on a portion o the single storage meduim' is disclosed in Belsan as the set of data set constitute a portion of a single volume and stored in a magnetic tape in a file server system (col. 3, lines 16-34 et seq, Fig. 2). Finally, the claimed step of, 'recording said data file in its entirety within said logical ring' is disclosed Belsan as data record from the backend data storage devices stores in the length of ring to maintained at a reasonable manageable number (col. 23, lines 6-11).

As per claim 27, '...,logical cylinder comprises a plurality of storage rings,...' is disclosed Belsan at col. 16 lines 3-51.

As per claim 29, 'wherein said storage rings comprises tow substantially parallel logical tracks,...' is disclosed Belsan at col. 16 lines 3-31.

As per claim 30, 'wherein said storage rings comprises tow substantially parallel logical tracks,...' is disclosed Belsan at col. 16 lines 3-31.

As per claim 31, '...,storage medium comprises logical tracks,...' is disclosed Belsan at col. 22 lines 62 to col. 23 lines 21.

As per claim 28, 'detecting a least of one previously logical cylinder' is disclosed Belsan at col. 13 lines 4-29, Further, 'positioning a head assembly having a recording head in an area of the magnetic tape,...' is disclosed Belsan at col. 3, lines 32-35, Fig. 2. Finally, 'moving at least one of the magnetic tape,...' is disclosed Belsan at col. 3, lines 32-35, Fig. 2.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

" A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person."

If this application currently names joint inventors, the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary in considering patentability of the claims under 35 U.S.C. § 103. Applicant is advised of the obligation under 37 C.F.R. § 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of potential 35 U.S.C. § 102(f) or (g) prior art under 35 U.S.C. § 103.

7. Claims 2, 3, 8-15, and 21-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5,403,639 issued to Belsan et al. ('Belsan', hereinafter) as applied in claims 1, 4-7, 16-20, and 26-31 in view of US Patent 4,445,195 issued to Kazuhiko Yamamoto ('Yamamoto', hereinafter).

As to claim 2, Belsan discloses a method of configuring a tape storage medium for recording a data file having a finite size (col. 3, lines 30-36). The claimed step of 'defining a logical cylinder on said tape storage medium, the tape storage medium comprising a single magnetic tape' is disclosed in the Belsan patent as the logical cylinder number identifies uniquely (single) and the logical address is used as a confirmation for cylinders location for data integrity considerations (col. 18, lines 1-6 et seq, Fig. 12). Belsan does not disclose the longitudinal direction movement as depicted in figure 2 of the present application. However, Yamamoto discloses an analogous method wherein the recording of variable length in the picture information can actually moves to longitudinal direction as each recording track is divided into blocks in the longitudinal direction of the tape (col. 5, lines 4-15). It would have been obvious to one ordinarily skilled in the art at the time of the present invention was made to combine the teachings of the cited references because longitudinal direction movement for capable of recording picture information of

Yamamoto's method would provided Belsan's with necessary infrastructure, which would allow the longitudinal direction movement in the storage medium, as explained Yamamoto in at col. 5 lines 4-5 et seq.

As to claim 3, Belsan discloses a method of configuring a tape storage medium for recording a data file having a finite size (col. 3, lines 30-36). The claimed step of, '...,data selected from a beginning portion and end portion of the data file" is disclosed in Belsan as the set of data set constitute a portion of a single volume and stored in a magnetic tape in a file server system (col. 3, lines 16-34 et seq, Fig. 2). Belsan does not disclose the longitudinal direction movement as depicted in figure 2 of the present application. However, Yamamoto discloses an analogous method wherein the recording of variable length in the picture information can actually moves to longitudinal direction as each recording track is divided into blocks in the longitudinal direction of the tape (col. 5, lines 4-15). It would have been obvious to one ordinarily skilled in the art at the time of the present invention was made to combine the teachings of the cited references because longitudinal direction movement for capable of recording picture information of Yamamoto's method would provided Belsan's with necessary infrastructure, which would allow the longitudinal direction movement in the storage medium, as explained Yamamoto in at col. 5 lines 4-5 et seq.

As to claim 8, Belsan discloses a magnetic tape data storage system for storing data file (col. 3, lines 30-36). Belsan teaches 'a magnetic tape,...' as the logical cylinder number identifies uniquely (single) and the logical address is used as a confirmation for cylinders location for data integrity considerations (col. 18, lines 1-6 et seq, Figs. 2, 12). Further, Belsan teaches 'at least one logical cylinder extending along,...' (col. 22 lines 62 to col. 23 lines 11). Finally, Belsan teaches, 'at least one data storage ring located entirely within a respective logical cylinder,...' (col. 13 lines 8 -29). Belsan does not disclose the longitudinal direction movement as depicted in figure 2 of the present application. However, Yamamoto discloses an analogous method wherein the recording of variable length in the picture information can actually moves to longitudinal direction as each recording track is divided into blocks in the longitudinal direction of the tape (col. 5, lines 4-15). It would have been obvious to one ordinarily skilled in the art at the time of the present invention was made to combine the teachings of the cited

references because longitudinal direction movement for capable of recording picture information of Yamamoto's method would provided Belsan's with necessary infrastructure, which would allow the longitudinal direction movement in the storage medium, as explained Yamamoto in at col. 5 lines 4-5 et seq.

Claim 21 has same subject matter as of claim 8, except 'a control interface receiving data of a file to be recorded on the recording media,...', and 'wherein said file data are recorded on said recording media,...' is disclosed Belsan at col. 22 lines 62 to col. 23 lines 21, col. 16 lines 3- 31 and essentially rejected for the same reasons as discussed in claim 8. Belsan does not disclose the longitudinal direction movement as depicted in figure 2 of the present application. However, Yamamoto discloses an analogous method wherein the recording of variable length in the picture information can actually moves to longitudinal direction as each recording track is divided into blocks in the longitudinal direction of the tape (col. 5, lines 4-15). It would have been obvious to one ordinarily skilled in the art at the time of the present invention was made to combine the teachings of the cited references because longitudinal direction movement for capable of recording picture information of Yamamoto's method would provided Belsan's with necessary infrastructure, which would allow the longitudinal direction movement in the storage medium, as explained Yamamoto in at col. 5 lines 4-5 et seq.

As to claim 9, Belsan discloses a magnetic tape data storage system for storing data file (col. 3, lines 30-36). Belsan teaches '...logical cylinder is dynamically allocated based on the size of the data file' (col. 2 lines 55 to col, 3 lines 36).

As to claim 12, 14 and 15 Belsan discloses a magnetic tape data storage system for storing data file (col. 3, lines 30-36). Belsan teaches , 'single magnetic tape,..."col. 3, lines 30- 36, Fig. 2)

As to claim 10, Belsan discloses a magnetic tape data storage system for storing data file (col. 3, lines 30-36). Belsan teaches, '...logical tracks and logical tracks of ring are recorded in opposite recording directions (at col. 31 lines 39-66)

As to claim 11, Belsan discloses a magnetic tape data storage system for storing data file (col. 3, lines 30-36). Belsan teaches '..., ring store an identified field,... (col. 23, lines 1-11)

As to claims 13, Belsan discloses a magnetic tape data storage system for storing data file (col. 3, lines 30-36). Belsan teaches, 'each data ring can store 256KB' (col. 3, lines 30-36 et seq).

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

1. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mohammad Ali whose telephone number is (703) 605-4356. The examiner can normally be reached on Monday to Thursday from 7:30am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached on (703) 305-9790. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7239 for regular communications and (703) 746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-9600.

Mohammad Ali
Patent Examiner
February 03, 2003

JEAN R. HOMERE
PRIMARY EXAMINER